The Bayou Observer

Volume 7
Winter 2009

National Weather Service Office
NWSFO New Orleans/Baton Rouge
htpp://www.srh.noaa.gov/lix/

Serving South Mississippi
&
Southeast Louisiana

An Explanation of Sea Fog
By Phil Grigsby

Fog on Lake Pontchartrain during the day

A major forecasting challenge along the Gulf Coast is the development of sea fog. The most common time period for sea fog to impact Southeast Louisiana and coastal Mississippi is during the cooler months of the year, typically from November through March. The reason for this is that for sea fog to form, cool water temperatures in the Gulf of Mexico and Lake Pontchartrain are needed.

Sea fog forms when warmer air coming up from the southern Gulf of Mexico slides over the cooler waters in the northern Gulf of Mexico and Lake Pontchartrain. More specifically, sea fog most commonly forms when the dewpoint temperature of the coastal waters and the temperature of the air above the waters varies by only a couple of degrees. In addition, the air moving into the region must be fairly moist, as would be expected with the passage of a warm front. As the warmer air moving into the area cools, the temperature will eventually fall below the point where saturation and condensation occurs. At that point, sea fog begins to form over the coastal waters. Light winds are also most favorable for sea fog formation. Strong winds will keep the fog elevated off the ground, resulting in a low overcast.

Sea fog will always form over the coastal waters first, but usually begins to spread inland fairly quickly after developing as the light southerly winds push the fog onshore. Sea fog can be very dense, with near zero visibilities being frequently observed. The low visibilities are the result of fog droplets forming around salt particles coming off the coastal waters. The more fog droplets that form, the lower the visibility drops. With a continuous supply of salt particles coming in from the coastal waters, dense fog readily forms. Often times, this dense fog will last well into the late morning hours, and in fact may last through the day over the water. Predicting the exact time that sea fog will begin to dissipate is very difficult due to the combination of temperature, dewpoint, and winds needed to stop the fog formation process.

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Inside this issue:

LIX who's who

In each issue of the Bayou Observer, we spotlight a few of our top notch team members. For this issue, allow us to introduce our Bayou Observer editors: Danielle Manning, Fred Zeigler, and Phil Grigsby.

Danielle Manning is a general forecaster at WFO LIX and is one of several locals (she grew up in a suburb of New Orleans) currently employed by the office. Danielle received a Bachelor of Science degree in meteorology from Saint Louis University in 2005 and a Master of Science degree with a focus in tropical meteorology from The Florida State University in 2007. While in school, Danielle was employed as a SCEP (student career experience program) student at the National Weather Service forecast offices in St. Louis and Tallahassee. Shortly after graduation from FSU, Danielle was selected as a general forecaster at WFO LIX, where she also serves as the outreach program leader. Danielle loves to travel and her favorite national park is Yosemite. She also enjoys all kinds of music, and while she doesn't Play any real instruments, she's an expert at “Guitar Hero.”

Danielle Manning

Fred Zeigler

Fred Zeigler is one of five senior forecasters at WFO LIX. Fred graduated with a Bachelor of Science degree in meteorology from Jackson State University and has been working with the National Weather Service for 19 years. He has been serving as a senior forecaster since 2002, when he was promoted from a forecaster position also here at WFO LIX. Aside from his primary duties of protecting lives and property, Fred also serves as the public forecast program leader and is responsible for providing forecast and warning verification data to the rest of the office staff. Prior to arriving at WFO LIX, Fred worked at the WFOs in Amarillo, TX; Tupelo, MS; Jackson, MS; and Tallahassee, FL. His favorite weather related songs are “Purple Rain” by Prince and “Ain't No Sunshine” by Bill Withers. His favorite video game is still Xevious by Atari from 1982.

Phil Grigsby is a general forecaster at WFO LIX. In addition, Phil serves as the webmaster and the fire weather program leader for the office. Phil joined the staff at WFO LIX in the summer of 2004. Prior to joining WFO LIX, Phil worked as a forecaster intern at the National Weather Service office in Atlanta, GA and in private industry. Phil is a member of the American Meteorological Society and the National Weather Association. Phil obtained a BS in Meteorology from the University of Oklahoma. Phil also enjoys bowling and walking his dog 'Deuce'.

Phil Grigsby

LIX in the Community
Past Outreach Events

Danielle Manning

Just as the summer was a busy one for outreach, the fall months, especially October, were equally as packed. On October 17, representatives from the Lower Mississippi River Forecast Center (or RFC, which is collocated with WFO LIX) were on hand at the annual "Wild Things" event held in Lacombe, Louisiana. The event was quite a success with several thousand people in attendance. At the NWS sponsored booth, the hurricane toss game was a big hit with the kids! The Slidell Air Show was also held on the 17th. In support of the event, forecasters from WFO LIX briefed airport and air show officials on expected weather conditions and possible gusty winds.

Phil Gridsby gives an aviation briefing to a few pilots for the Slidell Air Show

On October 22, NWS and RFC employees embarked on a journey to Baton Rouge to participate in the annual Ocean Commotion event. Employees provided informational brochures and children's activity books to booth visitors, and also engaged school children with several activities including the hurricane toss and coke bottle tornadoes.

NWS staff members also participated in a few school outreach events during the month of November. On the 12th, an NWS forecaster visited Metairie Academy to give a lighting safety presentation. The children were also excited to see a model tornado and weather balloon. On the 17th, the NWS participated in Hahnville High School's Freshman Career Day. At the event, an NWS forecaster was on hand to talk with more than 300 freshman and answer questions about careers in meteorology and other science-related fields.

In addition to these off-site events, several groups visited WFO LIX to tour the office and learn a little bit more about the NWS. These groups included boy scouts and girl scouts as well as families and home-schooled children. At the end of each tour, the groups were able to watch a live weather balloon launch.

For more information about these and other outreach events or to request NWS participation in an event, please contact our office. You can reach us by email at <SR-LIX.Webmaster@noaa.gov> or by phone at 504-522-7330 or 985-649-0429.

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National Weather Service
62300 Airport Road
Slidell, LA 70460
Phone: 504-522-7330
Fax: 985-649-0357

Internet Address
http://www.srh.noaa.gov/lix/

Meteorologist-in-Charge:
Kenneth Graham
Warning Coordination Meteorologist:
Frank Revitte
Science and Operations Officer:
Mike C. Koziara
Lead Editor: *Danielle Manning*
Internet Editor: *Phillip Grigsby*
Graphical Editor: *Freddie Zeigler*

An Explanation of Sea Fog

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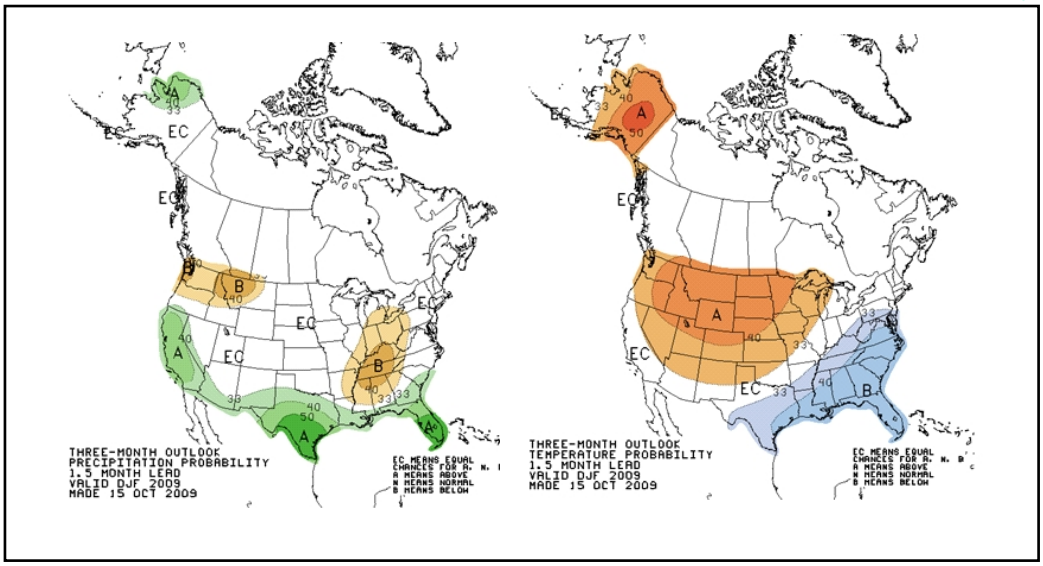
When sea fog is expected to develop over coastal Mississippi or Southeast Louisiana, the National Weather Service will issue a Dense Fog Advisory. This advisory is intended to let people know that dense fog is expected to develop over the area. If sea fog does develop and impacts the region, some basic precautions should be taken. Mariners should be aware of fog conditions before launching and prepare accordingly. Those driving should remember to slow down, use low beam headlights, and leave plenty of distance between vehicles. Usually during sea fog events, the Lake Pontchartrain Causeway will institute convoy protocols. If one is travelling this route, leave earlier than normal to account for the slower travel speeds invoked during the convoy.

In conclusion, sea fog is a very common occurrence across coastal Mississippi and Southeast Louisiana during the cooler months of the year. Visibilities are often reduced to near zero, which can be a very dangerous situation when driving or boating. Remember to take the proper precautions when driving or boating to reduce the chances for injury or death.

Winter Climatology Corner

Robert Ricks



The climatological winter months are December, January and February. On the calendar, winter officially starts on the winter solstice that takes place on December 21st at 11:47 am CST this year. Winters are usually milder in comparison to locations farther north and can be refreshingly warm during a few days of the season closer to the coast. Rainfall events and severe thunderstorms are often associated with cold fronts that sweep through the area during the winter months. Due to close proximity to a warm Gulf of Mexico, some cold fronts stall and return northward as a warm front. These situations typically cause light to moderate cold rain to occur in a weather situation called “over-running” - a term used to describe warm air moving up and over colder air near the surface. These days can be quite cold, damp and uncomfortable. Winter also means fog season as warm air moves over cooler waters and land to create “sea fog”. This is the type of fog that can be pea soup thick and extremely dangerous for area travelers and mariners. Several multi-vehicle accidents have occurred on our area bridges and highways due to dense fog in the winter months. One should be mindful of this hazard and plan accordingly for daily commutes and travel through the region.

The 2009 winter season will continue to be highlighted by a moderate El Nino episode, a warm water phenomenon that occurs in the Pacific Ocean near the equator that has a large affect on the weather patterns across the United States and other parts of the world. A typical El Nino winter across the Gulf States typically means wetter than normal conditions close to the coast but drier than normal in the more interior sections of the Gulf States. This is due to the placement of the sub-tropical jet stream that stays pretty close to the southern tier of states during the cool season. As a consequence of extensive cloud cover and rainy days, temperatures can be cooler than normal on average, though the likelihood of harsh cold conditions is low during El Nino winters.

Average temperatures and precipitation for the winter months can be found in the accompanying tables. Temperature ranges are given in the 4-5 degree increment that best captures the values for the entire area (using New Orleans, Baton Rouge, McComb and Gulfport as the basis). Actual normal values and record values may fall outside of these ranges.

December			
	High Temp (deg F)	Low Temp (deg F)	Precipitation (inches)
Normal	61.7-64.5	40.5-45.6	4.84-5.80
Record	82-85	5-10	10-17

January			
	High Temp (deg F)	Low Temp (deg F)	Precipitation (inches)
Normal	59.2-61.8	38.3-42.6	5.87-6.72
Record	81-86	8-13	15-23

February			
	High Temp (deg F)	Low Temp (deg F)	Precipitation (inches)
Normal	52.4-55.7	63.6-65.3	5.10-5.52
Record	84-85	10-15	13-15